

Multiplication and Division

Reporting Category Computation and Estimation

Topic Multiplication and division facts through the twelves table

Materials

- Index cards with the basic multiplication and division facts written on them
- Calculators

Vocabulary

numeral, fact family, number sentence, array, multiply, product, divide, dividend, divisor, quotient

Student/Teacher Actions (what students and teachers should be doing to facilitate learning)

1. Explain that the class is going to play a game of baseball, but rather than using a bat and a ball, students are going to use multiplication and division facts. An incorrect answer will be an out. Label home plate and first, second, and third bases around the room. Designate a pitcher's mound. Divide the class into two teams of nine. If there are remaining students, designate one to be the home plate umpire, one or two to be the scorekeeper(s)—one to keep the actual score and to keep track of outs and innings, and the other to be the commissioner. The commissioner will be armed with a calculator. Have each team decide on the positions the members will play. Toss a coin to determine who bats first.
2. Give the pitcher (you may want to reserve this position for yourself) the set of index cards with the multiplication and division facts on them. The first batter goes to the plate, and the pitcher verbally "tosses" a fact to the batter. The batter responds. The umpire determines whether the response is correct. If it is correct, the umpire calls, "Hit," and the batter proceeds to first base. If the response is incorrect, the umpire calls, "Out" and the next batter comes to the plate. The commissioner double checks the responses; if the umpire makes an incorrect call, the commissioner overrules him or her. (Note: Record hits and outs for all students as they come to bat. Watch for common mistakes and correct errors.)
3. Play continues until three outs have been accumulated. At that point, the teams trade places.
4. Play continues until nine innings have been played. The team with the most runs at the end of nine innings wins. In case of a tie, the game can be extended into extra innings.
5. Debrief the activity with the students to talk about strategies for improving their "play" just like a real baseball player might analyze his or her own strengths and weaknesses to improve.

Assessment

- **Questions**
 - What could you have done to improve your game?
 - Do you think that the strategy you used in the game helped or hindered you? Why?
- **Journal/Writing Prompts**
 - Write about another popular game that can be played using math facts. Describe how the game would be played, explaining the rules and telling how someone would win.
 - Explain why knowing your multiplication and division facts is important when playing this game.
 - Describe the strategies that you used to learn your multiplication and division facts. Which ones worked best? Why? Did you use any helpful tools or materials?
- **Other**
 - Have students play “Around the World.” Students stand up, two at a time. The teacher calls out a math fact, and the first student who calls out the correct answer moves on to challenge the next student. Any student who makes it all the way “around the world” to challenge every classmate is the winner.
 - Give each student a basic multiplication or division problem. Have him/her solve the problem and write the corresponding number sentences to complete the fact family.

Extensions and Connections (for all students)

- Use these activities at any time during the day—e.g., as a filler while waiting to go to lunch or as a special activity.
- Mix in addition and subtraction facts for review.

Strategies for Differentiation

- Provide multiplication charts, calculators, and additional math aids for students with memory difficulties.
- Supply scrap paper for students to draw arrays.
- Include multistep problems for high-ability students (e.g., $2 \times 3 \times 4$ or $3 \times 6 + 2$).